

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/GB 03/03536

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68 C12N15/12 C07K14/465 C07K16/18

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

CHEM ABS Data, MEDLINE, EPO-Internal, BIOSIS, WPI Data, EMBASE, SEQUENCE SEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HORI T ET AL: "Wpkci, encoding an altered form of PKCI, is conserved widely on the avian W chromosome and expressed in early female embryos: implication of its role in female sex determination." MOLECULAR BIOLOGY OF THE CELL. UNITED STATES OCT 2000, vol. 11, no. 10, October 2000 (2000-10), pages 3645-3660, XP001174169 ISSN: 1059-1524 cited in the application abstract; figures 1,4-7	1-20
X	WO 97 49806 A (BINDER MICHELE DENISE ;UNIV MELBOURNE (AU); NEILL MICHAEL JOHN O () 31 December 1997 (1997-12-31) abstract; claims 1-23	1-20

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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- * & * document member of the same patent family

Date of the actual completion of the international search

17 December 2003

Date of mailing of the international search report

07/01/2004

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages.	Relevant to claim No.
X	US 5 707 809 A (HALVERSON JOY ET AL) 13 January 1998 (1998-01-13) cited in the application abstract; claims 1-23	1-20
X	WO 96 39505 A (ISIS INNOVATION ; GRIFFITHS RICHARD (GB); TIWARI BELA (GB)) 12 December 1996 (1996-12-12) cited in the application abstract; claims 1-32	1-20
X	CLINTON M ET AL: "Sexing chick embryos: a rapid and simple protocol." BRITISH POULTRY SCIENCE. ENGLAND MAR 2001, vol. 42, no. 1, March 2001 (2001-03), pages 134-138, XP008025748 ISSN: 0007-1668 cited in the application page 135; figures 1-5	1-20
X	GRIFFITHS R ET AL: "A DNA test to sex most birds." MOLECULAR ECOLOGY. ENGLAND AUG 1998, vol. 7, no. 8, August 1998 (1998-08), pages 1071-1075, XP008025751 ISSN: 0962-1083 cited in the application page 1071 -page 1072; figure 1	1-20
X	FRIDOLFSSON ANNA-KARIN ET AL: "A simple and universal method for molecular sexing of non-ratite birds" JOURNAL OF AVIAN BIOLOGY, vol. 30, no. 1, January 1999 (1999-01), pages 116-121, XP008025841 ISSN: 0908-8857 abstract; figure 1	1-20
X	OGAWA A ET AL: "Molecular characterization and cytological mapping of a non-repetitive DNA sequence region from the W chromosome of chicken and its use as a universal probe for sexing carinatae birds." CHROMOSOME RESEARCH: AN INTERNATIONAL JOURNAL ON THE MOLECULAR, SUPRAMOLECULAR AND EVOLUTIONARY ASPECTS OF CHROMOSOME BIOLOGY. ENGLAND APR 1997, vol. 5, no. 2, April 1997 (1997-04), pages 93-101, XP008025843 ISSN: 0967-3849 abstract; figure 4	1-20
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>CLINTON M ET AL: "An overview of factors influencing sex determination and gonadal development in birds." EXS. SWITZERLAND 2001, no. 91, 2001, pages 97-115, XP008025757 the whole document</p>	1-20

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-20 (partially)

Methods for the determination of the sex of an avian subject using nucleic acid probes derived from the nucleic acid sequence of figure 8.

Methods for the determination of the sex of an avian subject using nucleic acid probes are already known in the art (see D1-D8). The requisite unity of invention (Rule 13.1 PCT) therefore no longer exists inasmuch as a technical relationship involving one or more of the same or corresponding special technical features in the sense of Rule 13.2 PCT could not be identified between the different sequences of figures 8-12.

2. Claims: 1-20 (partially)

Methods for the determination of the sex of an avian subject using nucleic acid probes derived from the nucleic acid sequence of figure 9.

3. Claims: 1-20 (partially)

Methods for the determination of the sex of an avian subject using nucleic acid probes derived from the nucleic acid sequence of figure 10.

4. Claims: 1-20 (partially)

Methods for the determination of the sex of an avian subject using nucleic acid probes derived from the nucleic acid sequence of figure 11.

5. Claims: 1-20 (partially)

Methods for the determination of the sex of an avian subject using nucleic acid probes derived from the nucleic acid sequence of figure 12.

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Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9749806	A	31-12-1997	AU 3084397 A	14-01-1998
			WO 9749806 A1	31-12-1997
			EP 0922098 A1	16-06-1999
			NZ 333858 A	27-10-2000
US 5707809	A	13-01-1998	US 5508165 A	16-04-1996
WO 9639505	A	12-12-1996	AU 718349 B2	13-04-2000
			AU 5906996 A	24-12-1996
			EP 0832218 A1	01-04-1998
			WO 9639505 A1	12-12-1996
			NZ 309122 A	28-02-2000
			US 2003191297 A1	09-10-2003